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10/088,185

03/14/2002

Randall L. Barbour

0887-4170

8875

7590

03/25/2005

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New York, NY 10154

EXAMINER

STAFIRA, MICHAEL PATRICK

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/088,185

Applicant(s)

BARBOUR ET AL.

Examiner

Michael P. Stafira

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 18 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 5-17, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/14/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

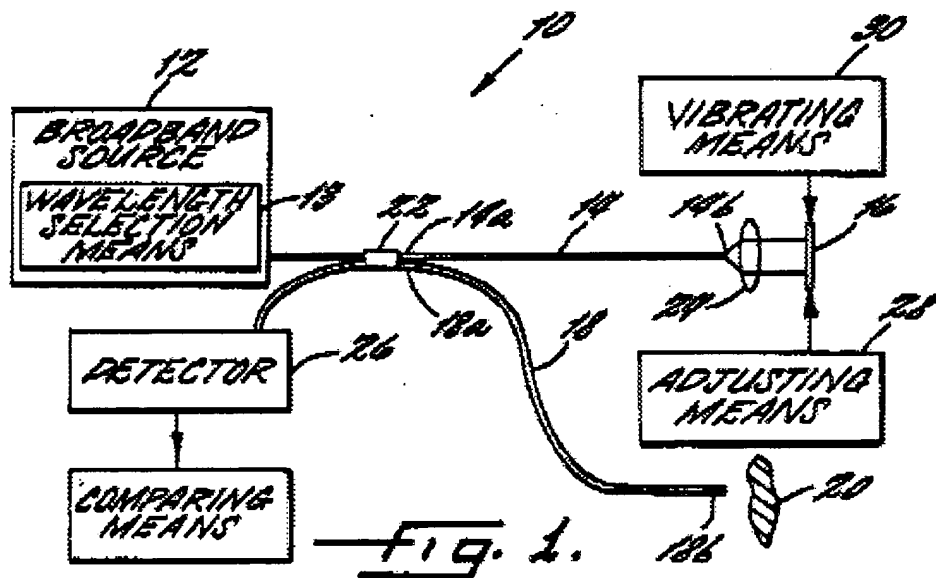
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 18, 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Farahi et al. ('390).

**Claim1**

Farahi et al. ('390) discloses providing a source (Fig. 1, Ref. 12) for directing at least one wavelength of energy into a target medium (Fig. 1, Ref. 20); providing a detector (Fig. 1, Ref. 26) for measuring energy emerging from the target medium (Fig. 1, Ref. 20); selecting at least one wavelength of energy (Fig. 1, Ref. 13), wherein at least one wavelength of energy is selected to maximize the total path length of energy propagating from the source (Fig. 1, Ref. 12) to a detector (Fig. 1, Ref. 26) and to maintain an acceptable energy density at the detector (Fig. 1, Ref. 26); directing (Fig. 1, Ref. 18) at least one selected wavelength of energy into the target medium (Fig. 1, Ref. 20); and measuring (Fig. 1, Ref. 26) at least one wavelength of energy emerging from the target medium (Fig. 1, Ref. 20)(Col. 5, lines 10-18).



**Claim 2**

The reference of Farahi et al. ('390) discloses the total path length is the sum of a plurality to total mean free path lengths a particle of energy travels as it propagates through the medium from the light source (Col. 6, lines 5-16).

**Claim 3**

Farahi et al. ('390) further discloses a single detector is provided (Fig. 1, Ref. 26).

**Claim 18**

Farahi et al. ('390) discloses providing a source (Fig. 1, Ref. 12) for directing at least one wavelength of energy into the target medium (Fig. 1, Ref. 20); providing a detector (Fig. 1, Ref. 26) for measuring energy emerging from the target medium (Fig. 1, Ref. 20); directing (Fig. 1, Ref. 18) a wavelength of energy into the target (Fig. 1, Ref. 20); measuring the emerging energy from the target with at least one detector (Fig. 1, Ref. 26); adjusting the wavelength (Fig. 1, Ref. 13) of the energy based on the measured emerging energy to maximize the total path length and

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maintain an acceptable energy density at a detector (Fig. 1, Ref. 26) and selecting at least one wavelength of energy having a maximized total path length from the source to at least one detector (Col. 5, lines 10-18).

**Claim 21**

Farahi et al. ('390) discloses providing a source (Fig. 1, Ref. 12) for directing at least one wavelength of energy into a target medium (Fig. 1, Ref. 20) wherein the at least one wavelength is selected to maximize the total path length of energy propagating from the source to a detector (Fig. 1, Ref. 26) and to maintain an acceptable energy density at the detector (Fig. 1, Ref. 26)(Col. 5, lines 10-18); providing a detector (Fig. 1, Ref. 26) for measuring energy emerging from the target medium (Fig. 1, Ref. 20); directing at (Fig. 1, Ref. 18) least one selected wavelength of energy into the target medium (Fig. 1, Ref. 20); and measuring (Fig. 1, Ref. 26) at least one wavelength of energy emerging from the target medium (Fig. 1, Ref. 20).

**Claim 22**

Farahi et al. ('390) discloses a means (Fig. 1, Ref. 13) for selecting at least one wavelength of energy; wherein the at least one wavelength of energy is selected to maximize the total path length of energy propagating from the source to a detector (Fig. 1, Ref. 26) and to maintain an acceptable energy density at the detector (Fig. 1, Ref. 26); a source (Fig. 1, Ref. 12) for directing at least one wavelength of energy into a target medium (Fig. 1, Ref. 20); and a detector (Fig. 1, Ref. 26) for measuring energy emerging from the target medium (Fig. 1, Ref. 20); a means for reconstructing (Col. 9, lines 26-54) an image of the properties of the target medium (Fig. 1, Ref. 20).

**Claim 23**

Farahi et al. ('390) discloses a source (Fig. 1, Ref. 12) for directing at least one wavelength of energy into a target medium (Fig. 1, Ref. 20), wherein the at least one wavelength is selected to maximize the total path length of energy propagating from the source (Fig. 1, Ref. 12) to a detector (Fig. 1, Ref. 26) and to maintain an acceptable energy density at the detector (Fig. 1, Ref. 26); a detector (Fig. 1, Ref. 26) for measuring energy emerging from the target medium (Fig. 1, Ref. 20); and a means for reconstructing an image of the properties of the target medium (See Fig. 3).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farahi et al. ('390).

**Claim 4**

Farahi et al. ('390) discloses the claimed invention except for a plurality of detectors are provided at a plurality of distances from the source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Farahi et al. ('390) with the plurality of detectors since it was well known in the art that using a plurality of detectors

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improves the performance of the measurement by increasing the amount of wavelengths which can be detected.

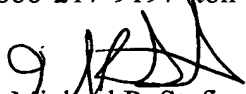
*Allowable Subject Matter*

5. Claims 5-17, 19, 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael P. Stafira  
Primary Examiner  
Art Unit 2877

March 11, 2005